

Depth Bombs, Dropped From Airplanes, Are Efficacious Against U-Boats

SEA TERRORS BLOWN UP BY BOMBS FROM FAST FLIERS

There is just one device needed to enable the destroyer to rid the seas of the submarine pest in short order," says the Scientific American. "That is a sound detector of sufficient range to enable a destroyer to find and follow a submarine when it is submerged."

Given this invention, "the thing would be done," according to the publication, which has been running a series of articles designed to aid in the solution of the all-important war problem. A "depth bomb" could be exploded on or near the submerged craft and its career ended forever.

Incidentally, the writer of the article points out that a depth bomb does not have to strike a submarine to be effective, but may be dropped in the immediate vicinity of the target. Elaborating this point, the writer says: "It is (the depth bomb's) destructive force is based upon the fundamental fact that water is incompressible and that the shock of detonating a mass of high explosive under water is felt immediately in all directions—the effect diminishing, of course, with the distance from the bomb."

Gas Seeks Easiest Escape.

"It will be remembered that in one of our earlier chapters on the submarine (Scientific American, June 9, 1917, page 578), it was stated by Hudson Maxim that four cubic feet of T. N. T. at the moment of detonation produces 40,000 cubic feet of gas. Now, when a mine, or bomb, or torpedo warhead is detonated the expanding gases seek the line of least resistance."

"In the case of a torpedoped ship, this line leads into the hollow interior of the ship, the incompressible water, forming an abutment in all other directions, but when a mine or depth bomb is detonated the line of least resistance is upward, and the gases cut their way quickly to the surface, carrying a fountain-

England and France Placed on Small Sugar Allowance

Compared with America's average consumption of ninety pounds of sugar per person a year, England and France are almost without this commodity. The English person, who in pre-war times consumed his ninety-three and a third pounds a year, is now allowed one-half pound a week. In France the allotment is but eighteen pounds a year.

The British government has been careful to announce that it cannot guarantee that even the half-pound allowance can be obtained, and a sugar card for a family is issued only for the number of persons sleeping in the house. In a public restaurant, if sugar is taken on cereals, the person must do without sweetening in his coffee. It is now customary for a lady, invited out to tea, to take her sugar with her. She is also expected to bring her own cake.

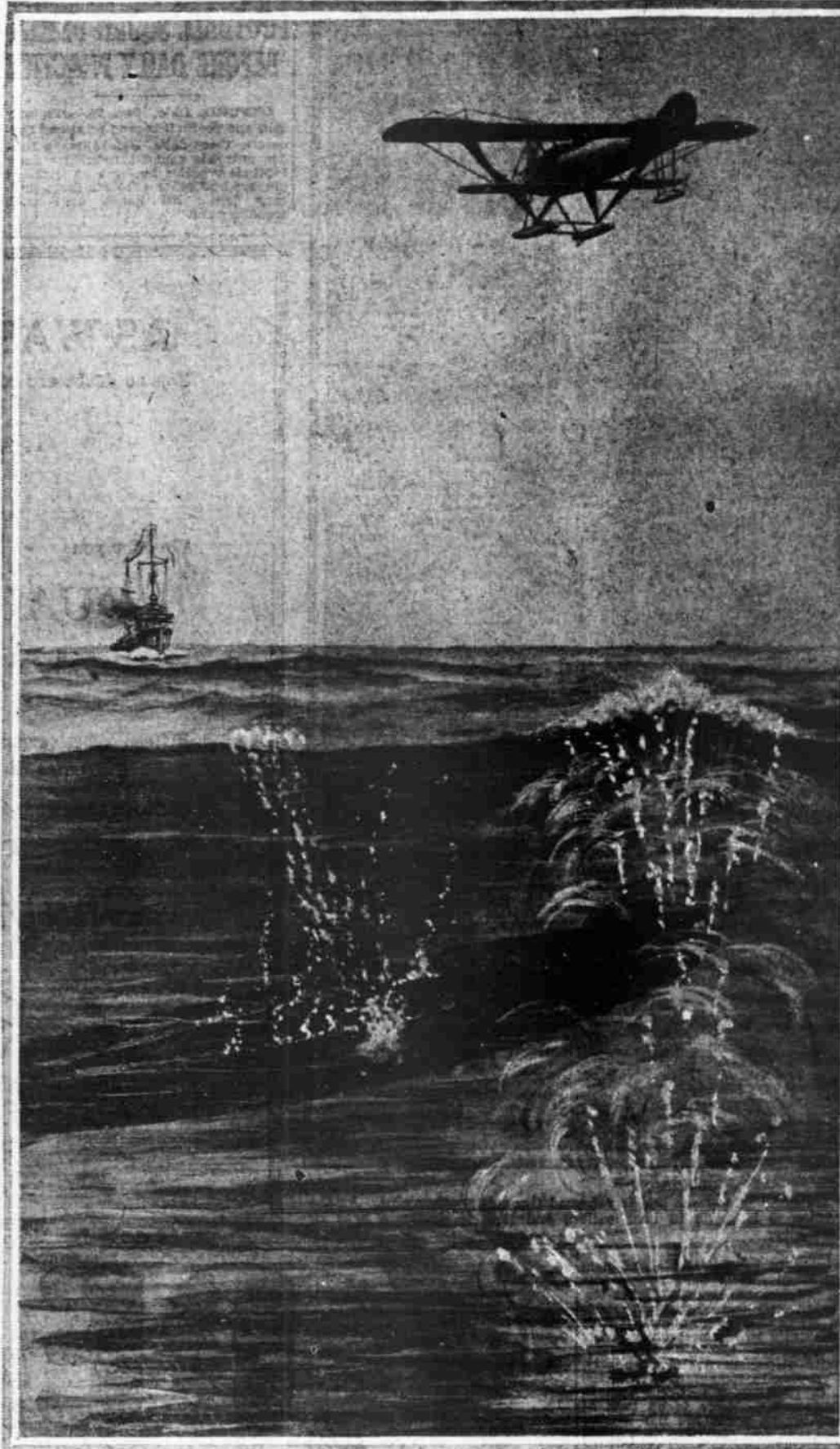
Like mass of water to a great height into the air.

"If the explosion takes place at a considerable depth, however, the resistance to the upper escape of the gases is greater and the shock transmitted will be proportionately increased. We illustrate this tendency; the bomb must blow in the submarine."

"The destructiveness of the bomb against the submarine will depend upon two things: first, the depth at which it is detonated, and second, the distance from the bomb to the submarine. Manifestly, then, it is advisable to detonate the bomb below the submarine, as the shock transmitted will be proportionately greater than if it were above it, other things being equal."

Distance and Effects.

"As to the distance at which an explosion would be absolutely destructive, rupturing the plating and sinking the submarine, Mr. Hudson Maxim writes us, that if 500 pounds of T. N. T. were exploded deep under water within 125 feet of a deeply submerged submarine, it would completely destroy it. Smaller charges would, of course, have to be detonated proportionately closer to the submarine to secure destructive action."



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This is the way the depth bomb makes life a terror for commanders of the Kaiser's undersea fighting machines. A bomb dropped anywhere near the submarine, if at its level, or below it, crushes the sides of the U-boat like an egg shell.

ONCE HELD AS SPY; KILLS SELF.

KANSAS CITY, Mo., Oct. 28.—The suicide of Lieutenant Johnson at Camp Doniphan today ends an adventurous career. Lieutenant John-

son was arrested as a German spy while returning from the Greenland geological expedition. He was held in London and later joined the Belgian Relief Society.

D. C. POSTAL EMPLOYEES PUT \$128,000 IN BONDS

The employees of the Postoffice Department and other postal employees located in Washington have subscribed \$128,000 to the Second Liberty loan, or twice as much as to the first Liberty loan, at which time their subscription was \$63,000.

The big mass meeting held by the employees of the department at Poll's Theater last Tuesday afternoon had the effect of renewing enthusiasm on the part of the clerks to such an extent that after the meeting, the same day, and before noon of the following day the subscriptions jumped from about \$65,000 to \$100,000, and at the close of business yesterday afternoon the amount was \$128,000.

The amount of money subscribed to the first Liberty loan by postmasters and postal employees throughout the United States was about \$10,000,000. Reports now reaching the department indicate that subscriptions from postal employees in the field service to the second Liberty loan will aggregate a larger sum of money than that subscribed to the first Liberty loan.

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MELT STATUE OF FREDERICK FOR CANNON, OFFICERS URGE

Gazing superciliously out across the landscape from his perch on a block of granite, the Kaiser's great-grandfather, five times removed, Frederick the Great, stands guard in bronze over the entrance to the United States War College.

He seems content with his post, quite cocky withal, despite the fact that inside the great stone building American army officers are plotting his descendant's downfall. When they pass the old man, some of them scowl, some laugh. Many army officers are in favor of melting him up to make cannon.

One newly-made captain, first amazed, then amused at Frederick, remarked: "Why, there's the bird that started all this Prussianism we are fighting. Where the — did he come from?"

The fact is, Theodore Roosevelt, arch-apostle of anti-Prussianism today, put him there thirteen years ago at Kaiser Bill's personal request. And among the kind words President Roosevelt lavished upon the Kaiser and his granddaddy, after winning and dining Wilhelm's personal envoys at the White House, November 19, 1904, were these:

"We receive this gift at the hands of the present Emperor, himself a man who has markedly added to the luster of his great house and his great nation, who has made it evident that they desire peace and friendship with the other nations of the earth. I accept it with deep appreciation of the friendly regard which it typifies for the people of this republic."

T. R. then proceeded to eulogize Frederick, comparing him favorably with Alexander, Caesar, Hannibal and Napoleon. He mentioned kindly "the ancient and illustrious house of Hohenzollern."

The bronze Frederick at the War College is a replica of the one stand-

Frederick the Great on His Pedestal



This is the statue of the Father of Prussianism, which looks out defiantly from its pedestal in front of the War College. Senator Owen says it ought to be thrown into the Potomac.

ing in the Kaiser's palace at Potsdam. He is a very hefty old Prussian with his wig and staff and his bronze lace insertion on his cuffs, with his hip boots and sword and three-cornered hat.

A nice wreath of iron roses smothered his feet. An American eagle of solid stone peers curiously down at him from atop the College. The historic Potomac rolls past his elbow. In the Senate recently, Senator Owens advocated chucking the statue into the Potomac.

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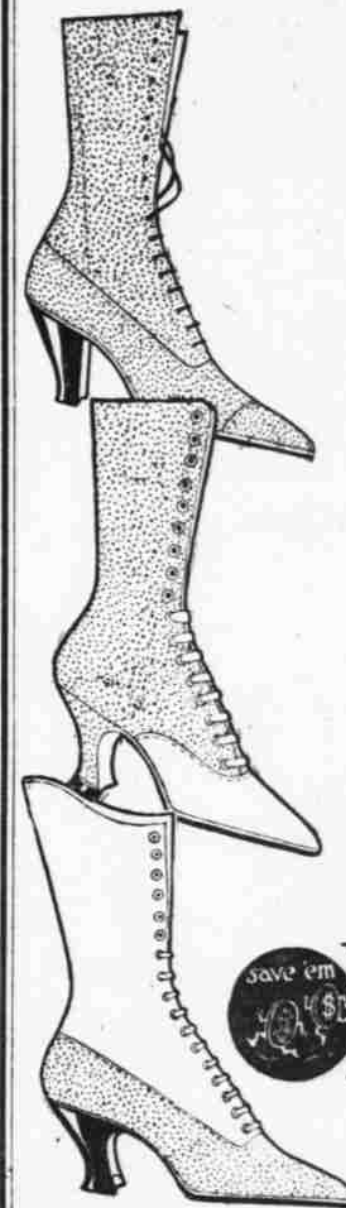
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